Resilience in Adopted vs. Non-Adopted College Students

An Honors Thesis (PSYS/HONR 499)

by

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Abstract

This study aims to investigate the levels of resilience in adopted versus non-adopted college students at Ball State University. Resilience is the process of adapting well in the face of adversity, stress, trauma, and tragedy (American Psychological Association, 2017). Previous research on resilience has relatively neglected college age students and there is conflicting evidence to suggest that adopted children and adults have lower levels of the components of resilience including lower self-confidence and self-esteem. The main purpose of this study will be to clarify the relationship between resilience and academic performance in adopted and non-adopted college students. In this study, adopted and non-adopted subjects will take a survey academic performance and resilience.

Key words: *resiliency, adopted, non-adopted, college students, academia*

Acknowledgments

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I would like to thank Sarah and Kelly along with everyone else in my 499 Senior Thesis class, my roommate/best friend Andrea, and best friend Madison for countless read-throughs, suggestions, and edits of my thesis.

Thesis Process Analysis Essay

The process of writing this thesis has been familiar for the most part. There are many aspects that I have previously experienced and understand. My thesis is based on research and I have written many different research proposals and reports for various psychology classes. However, this one even though it was familiar was slightly more difficult because I was not sure what I wanted to study before I began it. In its entirety I hope that people will see the growth I have had in engaging in research and furthering myself as a psychologist.

The process of starting to even seek out advisors and an idea came rather late for me! In fact, it was the last full week of classes and finals week that the gears really started turning at full speed. For the most part I had many different decisions on what I wanted my topic to be for my thesis. I was debating whether I wanted to extend previous research I had done in my research methods class or if I wanted to start a project involving cognition and encompassing the aspects of memory and learning. I ended up deciding that continuing research I had done in my research methods class would not be of interest to me and I would not want to complete the research I had started. While I found my love for cognition after taking the class my junior year, I was sad because the professor I wanted as my advisor was on sabbatical for the year. This ultimately led me to think about using a group of adopted and non-adopted individuals. I am adopted so why not study individuals similar to myself. I then thought why not talk about resilience and academic achievement.

After going to my thesis appointment, around the end of junior year, I was told that it was critical for me to find an advisor; the deadline for seeking out an advisor was coming closer and closer. Fortunately, I was able to combine my honors thesis with the psychology thesis requirement because they are in agreement that students are able to combine the two together!

That was one blessing in the beginning that helped me and relieved some of the stress and anxiety I was feeling. Now the search for an advisor probably was the most stressful experience with this thesis. I knew professors in the psychology department but the thought of asking some of them to be my thesis advisor made me nauseous. Nausea mixed with panic just made me want to curl up in a ball and lock myself in my room. In addition, most of my friends had already found their faculty advisors; so, I was behind!

I decided that staying in my room would not be beneficial, so I decided to go to North Quad and seek out any professor that could be my advisor. During the last full week of junior year and going into finals week, I was running frantically from person to person in the psychology department looking for a faculty advisor. Many professors said I had a good idea but had already taken on their student or students. I was feeling helpless. I had talked to some professors and asked if they knew if there were any other professors available. Most had suggestions but those professors I went to were booked. That is when I found Dr. Guy Mittleman. I proposed my idea to him and he thought about it. At the time he also had his current thesis student in the room and asked her about her thoughts. She said she liked my thesis and that he should take on the idea; he agreed and that is how he became my advisor.

A rush of happiness came over me because I knew if I had not found an advisor I was going to have to find one over the summer or first semester senior year when I needed to actually be starting on my thesis. A small part of me while searching for an advisor thought was the honors college even a good idea. I do think that finishing a majority of honors class and then dropping out before the thesis would have been a waste of time and effort. I decided "I can do this! I will do this!" and I'm doing it! This has been an experience and I am so fortunate that I not only had an advisor but also a Psychology Honors Thesis class that is advising me weekly on

what areas I need improvement on and how to complete each of the areas required. If I had to do this with just my advisor I feel that I would have completed it, but the process would have been more like mountains rather than small hills (after all we are in rural Indiana!).

The Psychology Honors Thesis class has been quite a blessing. All the other students in my class have been helping me as I have been helping them. We utilize almost weekly our Blackboard discussion board posting our latest data and write ups so that they can be checked for spelling, format, and/or wording. The feedback from not only my professor of the class but also my peers gives me a better understanding of the material because I can talk about sections with the group and get their opinions and take from them. Additionally, even though there is not a set "calendar" there are still weeks where certain sections are talked about and then they are "due". Due dates are usually estimates and really depend on where an individual is in the class. It is for the most part extremely independent which makes sense because we are seniors now! Even though dates are tentative, I appreciate how the professor realizes that we all work at a different pace and data does not always come in at the same time for everyone.

Back to the reasoning of choosing resilience in adopted and non-adopted students, I am not only adopted but also have always wondered if their resilience is less or more than non-adopted students. I have several friends who are adopted and have wondered if we do have more resilience and are able to overcome "more" because we are adopted. The reason I chose to also include resilience was because I knew I would be working with a college population and the word is always thrown around in education settings. I ran with this idea because resilience is needed and can help relieve stress and anxiety that I am sure many students not only those enrolled in college experience on a daily basis. The anxiety and stress can vary in amount and severity but nevertheless it is still there and exists.

Another reason I wanted to engage in a research thesis was because I am a psychology major and not only is a research thesis and presentation a requirement for our capstone, but it also makes me seem like more of a well-rounded person. I am put ahead of other candidates applying for graduate school programs because I decided to put myself and my name out there. Having research experience is also vital because a possible future plan for me is to run research on products for a consumer goods company. The research would mostly be analyzing customer outlooks for products and basically finding what the people want out of the products and what they do not want. It sounds simple, but it can be rather complex.

To start off the writing process, I had to remember back to my research methods class. Thank goodness my advisor was the one who taught that class to me! I also talked to Dr. Mittleman about rough due dates for each section of my paper. I told him I wanted to have them just because it helps me keep up and stay organized. The first initial section I wrote was the introduction after I found articles that pertained to adoption, stress, resilience, and academic achievement. I searched through countless articles trying to find information that would be beneficial to my research. It was interesting learning about all the different types of adoption and groups that are more affected by resilience and those that are not.

After finishing the introduction, I added in my hypothesis which according to current research would mean that students who are adopted are more resilient than those who are not. I combined this with the idea that students who were adopted would also have more resilience academically. Furthermore, I added information including past research and current research, along with my method section that talks about my participants, materials utilized, and procedure. Toward the end I included a results section that displays all of my findings along with comments about them. There are various charts throughout the text that explain my findings. The thesis

concluded with a discussion section outlining the main points of the project and then talking about limitations and future research ideas.

I mentioned that finding an advisor was difficult in the beginning, but I think the most difficult part of this paper was trying to achieve proper wording and get a reliable sample size. I knew from the beginning that finding adopted individuals would be difficult. I also knew that recruiting from the Ball State Communications Center was a risk because many students (at least many of my friends and coworkers) tend to delete those emails without even looking at them; I do this too!

Overall, the experience I have gained from writing this Psychology Honors Thesis has been challenging and fulfilling. I have learned so much about myself and what methods help to push me and what just plain stresses me out. Nevertheless, this was an experience I will treasure and appreciate because I did it! Sure, I had others to lean on, which in my opinion is not a sign of weakness or stupidity but rather means that we as humans need each other. I hope that my thesis encourages others interested in resilience to engage in research that encompasses the concept. Additionally, I hope that all individuals adopted or not realize that they are special and can overcome anything they put their mind to.

Resilience in Adopted vs. Non-Adopted College Students

The psychological concept of resilience has been defined as the process of adapting well in the face of adversity, stress, trauma, and tragedy (APA, 2017). Past research has demonstrated that "resilience is a multidimensional characteristic that varies with context, time, age, gender, and cultural origin, as well as within an individual subjected to different life circumstances" (Connor & Davidson, 2003, p. 76). It is apparent from the research on resilience that this concept has multiple components including an individual's level of self-esteem, self-confidence, and their ability to cope with stress (Child Welfare Information Gateway, 2013; Robotham, 2008). Stress is perhaps the most important influence on resilience in that it is in stressful circumstances that possible degrees of resilience can occur; an individual may cope successfully with stress or be completely unable to function. Previous research on resilience in stressful situations has mainly been explored in young children or adults over the age of 30. There is limited research investigating resilience during the stressors associated with college and it never been investigated in adopted individuals.

Psychological Correlates of Adoption

Although research has been done comparing multiple psychological and behavioral characteristics between adopted and non-adopted individuals, it should be noted that the concept of resilience has been neglected. For example, Miller et al. (2000) conducted a study using a large, nationally representative sample to test differences in psychological and behavioral problems in adopted and non-adopted individuals. Miller and colleagues focused on three main research objectives:

1. To compare mean scores of adopted and non-adopted adolescents across a wide variety of measures, including

academic achievement, substance use, psychological well-being, and physical health.

2. To examine similarities and differences of adopted and non-adopted adolescents controlling for selected demographic and background variables.
3. To compare distributions of adopted and non-adopted adolescents across a range of outcome measures, focusing especially on the tails of the distributions.

Their results indicated that adopted students between the ages of 10 and 19 years were at a higher risk of academic failure. Adoptees had lower school grades and higher school problems, engaged in more substance use, and reported lower self-esteem and future hope than those who were not adopted (Miller et al., 2000). Overall, adoptees had lower mean scores which indicated they experienced more negative behavior/functioning as opposed to non-adoptees (Miller et al., 2000).

Additionally, differences in self-esteem have been explored between adopted and non-adopted adults (age range 35-55 years). Self-esteem in this case was defined as, "how the adopted person feels about him or herself" (Child Welfare Information Gateway, 2013, p. 3). Adult adoptees scored lower on measures of self-esteem and self-confidence (Child Welfare Information Gateway, 2013). It was suggested that these low scores could come from a sense of the adopted individual feeling "different, out-of-place, unwelcome, or rejected" (Child Welfare Information Gateway, 2013, p. 3). For some adoptees it may also be a sense of unawareness of their genetic background and birth family. Furthermore, according to the Child Welfare

Information Gateway (2013), secrecy surrounding adoption may also be a factor that contributes to adoptees having a lower self-esteem.

It has also been suggested that the reverse could be true for self-esteem in adopted individuals. Thus, it is possible that individuals who are adopted may have increased self-esteem. This is because "adoption by its nature involves the experience of profound loss" (Pasquarello, 2017). Thus, more has to be overcome due to the loss that adopted students experience, unlike non-adopted students. Despite this suggestion, it has been reported that college-age adopted students show lower levels of self-esteem than their non-adopted peers (Kelly et al., 1998). Although this study used college age students, the potential role of collegiate stress as an influence on self-esteem was not explored.

Transitioning to College and the Experience of Stress

College is a time when academic achievement, along with changes in the environment, can be a catalyst for stress in many students. A new environment and academic schedule can cause stress to arise and resilience to surface. Stress is expansive in its entirety and can pertain to many different aspects of an individual's life. Stress on a simpler level is measured by whether or not an individual feels threatened by the situation they are encountering (Robotham, 2008). In an academic setting, the ability to work through stressors such as a rigorous schedule and curriculum seems to result in higher levels of resilience (Robotham, 2008). Moreover, resilience is recognized as a necessary skill by the educational system, and has not only led to programs implemented for students but also programs that help aid teachers in developing resilience (Jennings et al., 2013). This research further connects resilience to transitions of stress including school entry and detachment from parents during adolescence (Tusaie & Dyer, 2004). According to Tusaie and Dyer (2004), individuals are considered resilient when they can utilize their own

strengths to overcome stressors. This overcoming in turn makes them stronger and able to function above the norm.

It is somewhat surprising that studies on resilience have focused predominantly on young children and older adults, while neglecting college-age students. It seems likely that the characteristic of being in college would be important given the academic pressures associated with a college environment. In college, students are constantly striving for success and not always in a healthy, positive way; for some students stress becomes a way of living (Kumar & Bhukar, 2013). College causes stress that is physically, mentally, and emotionally taxing on students. Additionally, there are profound individual differences among individuals; one individual may see a situation as stressful while another may see it not as being stressful (Robotham, 2008). Moreover, "events viewed as being a challenge tend to lead to positive responses [such as] studying harder, while those viewed as being a threat tend to lead to negative responses [such as] avoidance or dropping out" (Robotham, 2008, p. 736). This can be not only frustrating and debilitating to college students but may also lead to devastation (Robotham, 2008). One stressor that is brought up that pertains to the current study is stress in college students and its relationship to transitioning to a university. Not only is it difficult to leave familiar home life, but students have the stress of succeeding academically, and there are also new unforeseen expectations of responsibility that are imposed into their lives (Robotham, 2008).

The Present Research

Stressors including leaving home, the necessity of academic success and novel responsibilities require that students have resilience in order to be successful. As stated previously, there is evidence that individuals who are adopted are more resilient than those who

are not adopted (Pasquarello, 2017) suggesting the possibility that this difference in resilience could translate into academic success. However, there is also evidence suggesting that adopted individuals tend to have less self-confidence and lower self-esteem than those who are not adopted (Child Welfare Information Gateway, 2013). As these components of resilience may be lacking in adopted individuals, it is also possible that they may have lower levels of academic success. The purpose of this study is to find clarity in the relationship between levels of resilience and academic success in adopted students vs. non-adopted college age students. This will extend previous research done by Kelly et al. (1998) and Miller et al. (2000) concerning resilience in adopted and non-adopted children and adults. A second novel feature of this study is the investigation of the relationship between academic performance and resilience. Overall, this research will advance our understanding of resilience and academic performance in adopted and non-adopted students, and how they relate to one another.

Method

Participants

Participants were college students that were between the ages 18-24 years. Students were solicited to complete the survey via an email sent from the Ball State Communication Center. The email stated the purpose of the study and provide a link for them to complete the survey. Participants were unpaid, and there were responses from 122 students total. In agreement with expectations there were significantly less adopted students than non-adopted students.

Materials

Participants completed a questionnaire administered via Qualtrics. Participants indicated if they are adopted or not-adopted. Additional questions came from two sources: Smith and colleagues (2008) Brief Resilience Scale and Bedewy and Gabriel's (2015) Perception of

Academic Stress Scale. The BRS (Smith et al., 2008) is a reliable means of assessing resilience as the ability to bounce back or recover from stress and may provide unique and important information about people coping with health-related stressors. The higher the scores the more resilience one has and the lower the score the less resilience. The reliability for this instrument was established using Cronbach's alpha, and was above 0.8 in multiple samples. The PAS Scale (Bedewy & Gabriel, 2015) measures students' academic stress related to three areas: academic expectation, faculty work and examinations, and students' academic self-perceptions. The higher the students score the more stress they feel, while lower scores mean there is a decrease in stress they are experiencing. The reliability for this instrument has been established by Bedewy and Gabriel (2015) and is 0.7 (Cronbach's alpha). Some examples of questions include: "I am confident that I will be a successful student," "I fear failing courses this year," and "The unrealistic expectations of my parent(s) stresses me out". The questionnaire takes approximately 10 minutes to complete and has 25 total questions. The questions were assessed on a 5-point Likert scale ranging from strongly disagree to strongly agree.

Procedure

This survey was administered via Qualtrics and was scheduled to be sent out as a mass email to all students that attend Ball State University. Before inputting their responses into the questionnaire, subjects were prompted to read the consent form and either "Agree" or "Disagree" to participate in the study. Subjects then completed study criteria questions including having English as a first language, and whether they were adopted. Participation in this study was completely voluntary. Participants were asked to then complete the questionnaire on their own electronic devices; either laptop or smartphone. Participants were asked questions about how well they rebound from situations that might be stressful and/or difficult.

Results

The data was collected from a total of 122 students who attended Ball State University. Seven subjects were adopted and 115 were not adopted. My hypothesis was that students who are adopted will have more resilience than students who are not adopted because "adoption by its nature involves the experience of profound loss" (Pasquarello, 2017).

For each participant the mean of their scores from each scale was computed. For the Brief Resilience Scale (2008), Smith et al. indicated that the investigator needs to add the scores together for each question and then divide by six to receive their final score. For the Perception of Academic Stress scale (2015), Bedewy and Gabriel indicated that just the means of each of the scores needed to be found. After finding the means, data was analyzed using an Independent Samples t-Test, as shown in Table 1, to compare both adopted and non-adopted students. Results were not supportive of my hypothesis and in fact there were not any significant differences between adopted and non-adopted individuals in regard to resilience or academic performance.

Table 1. Independent Samples t-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AverageBRS	Equal variances assumed	1.997	.160	1.406	120	.162	.47598	.33851	-.19425	1.14621
	Equal variances not assumed			1.806	7.350	.112	.47598	.26355	-.14124	1.09321
SumPAS	Equal variances assumed	.793	.375	.218	120	.828	.86832	3.97729	-7.00643	8.74308
	Equal variances not assumed			.183	6.504	.860	.86832	4.73252	-10.49758	12.23423

Pearson product moment correlations were then used to explore the relationship between resilience and academic stress in the entire sample and within adopted and non-adopted individuals. As shown in Tables 2 – 3, in the total sample (Table 2) the result was significant, $r = .509$, $p < .01$, indicating that academic stress and resilience were highly correlated. When considered in the non-adopted sample (Table 3) the relationship was significant, $r = .524$, $p < .01$.

Furthermore, when considered in the adopted sample (Table 4) the relationship was not significant even though it was positively correlated. This could be due to the lack of adopted individuals present in this study.

Table 2. Correlations Entire Sample

		AverageBRS	SumPAS
AverageBRS	Pearson Correlation	1	.509**
	Sig. (2-tailed)		.000
	N	122	122
SumPAS	Pearson Correlation	.509**	1
	Sig. (2-tailed)	.000	
	N	122	122

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3. Correlations non-adopted only

		AverageBRS	SumPAS
AverageBRS	Pearson Correlation	1	.524**
	Sig. (2-tailed)		.000
	N	115	115
SumPAS	Pearson Correlation	.524**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4. Correlations adopted only

		AverageBRS	SumPAS
AverageBRS	Pearson Correlation	1	.293
	Sig. (2-tailed)		.524
	N	7	7
SumPAS	Pearson Correlation	.293	1
	Sig. (2-tailed)	.524	
	N	7	7

Discussion

Prior research has demonstrated that resilience is recognized as a necessary skill by the educational system and has not only led to programs implemented for students but also programs that help aid teachers in developing resilience (Jennings et al., 2013). Additionally, college is stressful—both, physically and mentally—and emotionally taxing. Furthermore, past research

has indicated that there are profound individual differences among individuals; one individual may see a situation as stressful while another may see it not as being stressful (Robotham, 2008). The primary purpose of this study was to examine the resilience levels in adopted and non-adopted students. My initial hypothesis was that students who are adopted will have higher levels of resilience than those who are not adopted. This hypothesis was not supported by results of the study. The results indicated that both groups of students—adopted or not adopted—had similar scores that were fairly average. Both groups scored moderately on the BRS indicating they had average resilience levels (Smith et al., 2008) and PAS indicating they seemed to experience stress to some degree in their academic performance (Bedewy & Gabriel, 2015). In agreement with current literature, it appears that both resilience and academic stress are related concepts (Robotham, 2008; Tusaie & Dyer, 2004).

Limitations of These Studies

There were a number of limitations in the production of this study. These limitations resulted from demographic convenience and homogeneity. Each of the limitations will be discussed further in detail below.

Demographic convenience. All the students from this sample were from Ball State and the questionnaire was sent out via the Ball State Communications Center. It could be possible that many students just deleted the email while others looked at it but decided not to complete it. Moreover, students were asked to indicate whether they were adopted or not adopted but the definition for "adopted" was not specified. According to the National Adoption Center (2018) there are many different forms of adoption placed under two main categories: International (outside of United States) and Domestic (within the U.S.). Within the category of domestic adoption there is foster care, Fost-Adopt, Infant, Independent, stepchild, relative, grandchild, and

adult adoption options. These forms of adoption can be open (contact with all families) or closed (no contact between the families) adoptions (National Adoption Center, 2018).

As well, the sample size was dissimilar between adopted and non-adopted. Ideally, if it was possible there would need to be an oversampling of adopted students in order to compare them evenly with non-adopted students. The small sample of adopted students was not surprising due to the amount of adopted children being only about two point five percent of the U.S. population in 2001 (PBS, 2010). However, it should be noted that five point seven percent of adopted students were surveyed in this sample.

Homogeneity. In addition to the limitation of demographic convenience the study also sampled students from the same university. Thus, a single college population may be too homogenous due to being under similar pressures at the university. Each student, although they are studying different majors, are still included in the overall pressures that affect all students attending the university. Pressures include, but not limited to, the university's grade point average (GPA), departmental GPA requirements, and academic credit requirements.

The results from this study suggest that resilience levels in college students do not differ significantly based on whether an individual is adopted or not adopted. For example, in college, students are constantly striving for success and not always in a healthy, positive way; for some students stress becomes a way of living (Kumar & Bhukar, 2013). Furthermore, this initial study could be used to aid an individual who is interested adopted and non-adopted students and their academic performance in general.

References

American Psychological Association. (2017). The road to resilience. Retrieved from http://www.apa.org/helpcenter/road-resilience.aspx.

Bedewy, D. & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students: The perception of academic stress scale. *Health Psychology Open*, 1-9.

Child Welfare Information Gateway. (2013). *Impact of adoption on adopted persons.* Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

Connor, K. M. & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety, 18*, 76-82.

Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., Greenberg, M. T. (2013). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): Results of a randomized controlled trial. *School Psychology Quarterly, Vol 28*(4), 374-390.

Kelly, M. M., Towner-Thyrum, E. Rigby, A., & Martin, B. (1998). Adjustment and identity formation in adopted and nonadopted young adults: Contribution of family and environment. *American Journal of Orthopsychiatry, 68*(3), 497-500.

Kumar, S. & Bhukar, J. P. (2013). Stress level and coping strategies of college students. *Journal of Physical Education and Sports Management, 4*(1), 5-11.

Miller, B. C., Xitao, F., Christensen, M., Harold, & Grotevant H. D. (2000). Comparisons of adopted and nonadopted adolescents in a large, nationally representative sample. *Child Development, Vol 71*(5), 1458-1473.

National Adoption Center. (2018). Types of Adoption Retrieved from

http://www.adopt.org/types-adoptions

Pasquarello, N. (2017). Resilience in adoption. *Friends in Adoption*. Retrieved from https://www.friendsinadoption.org/adoption-information-and-resources/resilience-in-adoption/-.

Public Broadcasting Service (PBS). (2010, September 7). Fact Sheet. Retrieved from http://www.pbs.org/pov/offandrunning/fact-sheet/.

Robotham, D. (2008). Stress among higher education students: Towards a research agenda. Higher Education, *56*, 735–746.

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine*, *15* (3), 194 – 200.

Tusaie, K. & Dyer, J. (2004) Resilience: a historical review of the construct. *Holistic Nursing Practice, 18*(1), 3-8.

Appendix A

Informed Consent

Study Purpose and Rationale

The purpose of this research study is to examine the various levels of resilience in both adopted and non-adopted college-aged students attending Ball State University. Findings from this research may help increase understanding on resilience levels in adopted and non-adopted college students.

Inclusion/Exclusion Criteria

To be eligible to participate in this study, you must be between the ages of 18 and 24, be able to read and understand questions and instructions in English, be able to read at a 6th grade level, and be able to physically manipulate a mouse and keyboard.

Participation Procedures and Duration

For this project, you will be asked to complete a self-report questionnaire about resilience and academic success. It will take approximately 10 minutes to complete the questionnaire. This questionnaire is to be completed on your own computer via Qualtrics and will automatically be sent to the researcher's password-protected computer.

Data Confidentiality or Anonymity

All data will be maintained as anonymous and no identifying information such as names will appear in any publication or presentation of the data.

Storage of Data

Responses will be maintained in a secure database indefinitely such that these data could be used to examine other relevant research questions regarding resilience in college students in future archival studies.

Risks of Discomforts

The only anticipated risk from participating in this study is that you may not feel comfortable answering some of the questions. You may choose not to answer any question that makes you uncomfortable and you may quit the study at any time.

Voluntary Participation

Your participation in this study is completely voluntary and you are free to withdraw your permission at any time for any reason without penalty or prejudice from the investigator. If you withdraw from the study, any information you have provided will be destroyed.

IRB Contact Information

If you are interested in more information regarding your rights as a research participant, please contact the Director of Research Integrity, Institutional Review Board, Ball State University, Muncie, IN 47306, (765) 285-5070

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Appendix B

Study Criteria Questionnaire

Instructions: Please answer the following questions as "True" or "False" about you.

	True	**False**
1. I am between the ages of 18 and 24 and currently attending college	T	F
2. I am able to understand and respond to questions in English	T	F
3. I am able to read at a 6th grade level	T	F

Instructions: Please answer the following questions as "Yes" or "No" about you.

	Yes	**No**
4. Are you adopted	Y	N

Appendix C

Survey Scales

Brief Resilience Scale (BRS)

Please respond to each item by marking <u>one box per row</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
BRS 1	I tend to bounce back quickly after hard times	1	2	3	4	5
BRS 2	I have a hard time making it through stressful events	5	4	3	2	1
BRS 3	It does not take me long to recover from a stressful event	1	2	3	4	5
BRS 4	It is hard for me to snap back when something bad happens	5	4	3	2	1
BRS 5	I usually come through difficult times with little trouble	1	2	3	4	5
BRS 6	I tend to take a long time to get over set-backs in my life	5	4	3	2	1

Scoring: Add the responses varying from 1-5 for all six items giving a range from 6-30. Divide the total sum by the total number of questions answered.
My score: _____ item average / 6

Perception of Academic Stress Scale (PAS)

Please rate your perception about the following statements in contributing to academic stresses
1 = Strongly disagree to 5 = Strongly agree (1 → 5)

1. Am confident that I will be a successful student
2. Am confident that I will be successful in my future career
3. I can make academic decisions easily
4. The time allocated to classes and academic work is enough
5. I have enough time to relax after work

Please rate your perception about the following statements contributing to Academic Stresses
1 = Strongly agree; 5 = Strongly disagree (1 → 5)

1. My teachers are critical of my academic performance
2. I fear failing courses this year
3. I think that my worry about examinations is weakness of character
4. Teachers have unrealistic expectations of me
5. The size of the curriculum (workload) is excessive
6. I believe that the amount of work assigned is too much
7. Am unable to catch up if getting behind the work
8. The unrealistic expectations of my parent(s) stresses me out
9. Competition with my peers for grades is quite intense
10. The examination questions are usually difficult
11. Examination time is too short to complete the answers
12. Examination times are very stressful to me
13. Even if I pass my exams, I am worried about getting a job

Office of Research Integrity
Institutional Review Board (IRB)
2000 University Avenue
Muncie, IN 47306-0155
Phone: 765-285-5070

DATE: January 23, 2018

TO: Celie McKinley

FROM: Ball State University IRB

RE: IRB protocol # 1160281-1
TITLE: Resilience in Adopted vs. Non-Adopted College Students
SUBMISSION TYPE: New Project

ACTION: APPROVED
DECISION DATE: January 23, 2018
REVIEW TYPE: **EXEMPT**

The Institutional Review Board reviewed your protocol on January 23, 2018 and has determined the procedures you have proposed are appropriate for exemption under the federal regulations. As such, there will be no further review of your protocol, and you are cleared to proceed with the procedures outlined in your protocol. As an exempt study, there is no requirement for continuing review. Your protocol will remain on file with the IRB as a matter of record.

Exempt Categories:

	Category 1: Research conducted in established or commonly accepted educational settings, involving normal educations practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
XXXXX	**Category 2:** Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior
	Category 3: Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under category 2, if: (i) the human subjects are elected or appointed officials or candidates for public office; or (ii) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
	Category 4: Research involving the collection of study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

	Category 5: Research and demonstration projects which are conducted by or subject to the approval of Department or agency heads, and which are designed to study, evaluate or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in methods or levels of payment for benefits or services under these programs.
	Category 6: Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed which contains a food ingredient at or below the level and for a use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Editorial Notes:

1. None.

While your project does not require continuing review, it is the responsibility of the P.I. (and, if applicable, faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. **Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project.** Please contact (ORI Staff) if you are unsure whether your proposed modification requires review or have any questions. Proposed modifications should be addressed in writing and submitted electronically to the IRB (http://www.bsu.edu/irb) for review. Please reference the above IRB protocol number in any communication to the IRB regarding this project.

Reminder: Even though your study is exempt from the relevant federal regulations of the Common Rule (45 CFR 46, subpart A), you and your research team are not exempt from ethical research practices and should therefore employ all protections for your participants and their data which are appropriate to your project.

D. Clark Dickin, PhD/Chair
Institutional Review Board

Christopher Mangelli, JD, MS, MEd, CIP/
Director
Office of Research Integrity